Aboriginal Affairs and Northern Development Canada
Affaires autochtones et Développement du Nord Canada

Northern Oil and Gas Annual Report 2012

Canada

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The management of oil and gas resources on Crown lands North of latitude 60°N in the Northwest Territories, Nunavut and the northern offshore is a federal responsibility carried out by the Northern Petroleum and Mineral Resources Branch of Aboriginal Affairs and Northern Development Canada.

Petroleum resource management on Crown lands is exercised under federal legislation. The *Canada Petroleum Resources Act* and its regulations govern the granting and administration of Crown exploration and production rights and set the royalty regime. The *Canada Oil and Gas Operations Act* governs the regulation of petroleum operations and associated benefits requirements. Land, royalty and benefit matters are managed by the Department on behalf of the Minister of Aboriginal Affairs and Northern Development Canada while the National Energy Board takes the lead role in approval of operations.

Information on Northern petroleum resource management may be found on the web at http://www.aadnc-aandc.gc.ca/eng/1100100036087.

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Message from the Honourable Bernard Valcourt, PC, MP
Minister of Aboriginal Affairs and Northern Development

I am pleased to table before Parliament the annual report on the administration of oil and gas in the Northwest Territories, Nunavut and northern offshore for the year ending December 31, 2012.

Our Government continues to take action to encourage future exploration and development of oil and gas reserves in Canada's North. The activities outlined in this report contribute significantly to our commitments of promoting social and economic development under Canada's Northern Strategy.

Building on these commitments, regular calls for nominations and calls for bids on northern frontier lands provide industry with the opportunity to obtain exploration rights in the Northwest Territories, Nunavut and the northern offshore. Northerners, Aboriginal groups and other stakeholders are a part of this process with the Government, thus strengthening partnerships and advancing oil and gas exploration for the benefit of all Canadians.

Several exploration licences were issued in 2012, with industry interests focused on the Mackenzie Valley and the Beaufort Sea. Exploration interests in the Beaufort Sea extended north to a region west of Banks Island for the first time this year.

Research under the Beaufort Regional Environmental Assessment continued through 2012. Preliminary discussions were also held with key stakeholders in Inuit organizations and territorial and federal governments to consider approaches for undertaking a strategic environmental assessment to inform decisions around eventual issuance of exploration rights in the offshore region of Baffin Bay and Davis Strait. Encouraging development while safeguarding the environment and supporting responsible resource development means greater prosperity that all Canadians can enjoy for generations to come.

The Northern Strategy commits the Government of Canada to ensure the North achieves its true promise as a healthy, prosperous region within a strong and sovereign Canada. I invite you to consult this report for further details on the exploration and development of Canada's Northern oil and gas resources over the past year.

Bernard Valcourt

May 2013

Frontier Lands[1] under the administrative responsibility of the Minister of Aboriginal Affairs and Northern Development

[1] "Frontier lands" are defined under section 2 of the *Canada Petroleum Resources Act*, as follows:
"frontier lands" means lands that belong to Her Majesty in right of Canada, or in respect of which Her Majesty in right of Canada has the right to dispose of or exploit the natural resources, and that are situated in

a) the Northwest Territories, Nunavut or Sable Island, or
b) submarine areas, not within a province, in the internal waters of Canada, the territorial sea of Canada or the continental shelf of Canada, but does not include the adjoining area, as defined in section 2 of the *Yukon Act*.

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NORTHERN OIL AND GAS PROGRAM SUMMARY

Overview

Regions of the North with high petroleum potential include the Mackenzie Valley and Mackenzie Delta of the Northwest Territories, the Beaufort Sea and Canada's Arctic continental margin, the Arctic Islands of Northwest Territories and Nunavut, and the eastern offshore of Nunavut. This potential offers a diversity of opportunity for oil and gas explorers, ranging from onshore resource development to deep water exploration. In 2012, industry interest focused on the Mackenzie Valley and the Beaufort Sea.

The issuance of exploration rights is an important first step in encouraging economic development in those regions of the Northwest Territories and Nunavut with high petroleum potential. Regular opportunity for industry to bid and win new exploration licences is a key feature of the management of oil and gas lands in the North.

Once an exploration licence is awarded, the successful company can pursue exploration activities after they have received authorization from the National Energy Board, the technical regulator. Geophysical activities as well as and exploration drilling can lead to the discovery of new oil and gas fields and commercial development.

This year saw further acquisition of exploration licences in the central Mackenzie Valley of the Northwest Territories, accompanied by increased activity to test a potentially extensive oil play in an area that extends approximately 100 km northwest and southeast of the North's largest producing oil field at Norman Wells.

Operations in the central Mackenzie Valley this year included seismic acquisition and drilling to characterize the potential of shale formations for tight oil production in the subsurface. This activity generated employment benefits and business opportunities, building capacity in Mackenzie Valley communities.

Further North, the recognized potential for additional discoveries of petroleum in the Mackenzie Delta and the Beaufort Sea continued to attract interest. Companies acquired several new exploration licences and some companies entered into partnerships with others that already hold licences in the Beaufort Sea. New exploration interest was expressed for the first time in an area west of Banks Island, northeast of the focus of current Beaufort Sea activity.

There is high petroleum potential in the North.

Offshore operations included seismic exploration of the subsurface structure of deep water licences to assess potential for future drilling in the licence areas. It also included the continued acquisition of modern seismic by the geophysical industry to create a modern dataset for much of the Beaufort Sea. This activity provided benefits for communities in the Inuvialuit Settlement Region of the Northwest Territories.

Research efforts continued to build knowledge to support responsible resource development in the Beaufort Sea, as part of the Beaufort Regional Environmental Assessment. In the Beaufort Sea and the Mackenzie Valley, research was also supported by the Environmental Studies Research Fund, through levies on lands held by industry. In the eastern Arctic, preliminary discussions were held with Inuit organizations, federal and territorial governments, and relevant stakeholders to develop options for a strategic environmental assessment for future issuance of exploration rights in the offshore area.

2012 In Brief

RIGHTS MANAGEMENT

- Two calls for bid in both the central Mackenzie Valley and Beaufort Sea & Mackenzie Delta Regions ended in June and September 2012. Eight new exploration licences were awarded as a result of these processes.
- In the central Mackenzie Valley, two new exploration licences were issued in 2012, to Shell Canada Limited and MGM Energy Corp., covering more than 150,000 hectares for a total of work commitment of $92.0 million.
- In the Beaufort Sea, six offshore exploration licences covering more than 900,000 hectares were awarded to Franklin Petroleum Limited, for a total work commitment expenditure of $7.5 million.

OPERATIONS

- Two new exploratory wells were drilled in the central Mackenzie Valley and four seismic programs were completed: two in the Mackenzie Valley and two in the Beaufort Sea, including one 3-D program. Nine wells were re-entered in the Cameron Hills field in the southern Northwest Territories. No new development wells were drilled in this area.
- Total exploration expenditures in the North are provisionally estimated at $111 million, up from $20 million in 2011.

PRODUCTION

- In 2012, total oil production was 756.4 x 10^3 m^3 (4.8 million barrels), a 24% increase from 2011. This increase was mainly the result of both the Rainbow and Enbridge pipelines operating at capacity in 2012. Total natural gas production was 163.1 x 10^6 m^3 (5.7 billion cubic feet), less than a 1% drop from the previous year.

ROYALTIES

- In 2012, royalties received from oil and gas production on northern frontier lands amounted to $9.9 million, a 14% decrease from 2011. This decrease was due to lower oil prices from the previous year.

BENEFITS

- The Department finalized consultations with northern stakeholders and with representatives from the oil and gas sector on the proposed Benefits Plan Guidelines for the North. The Guidelines will assist an operator to develop a Benefits Plan that meets

the requirements of the *Canada Oil and Gas Operations Act* and the *Canada Petroleum Resources Act*.

ENVIRONMENTAL STUDIES RESEARCH FUND

- In 2012, the ESRF Management Board approved funding for two new studies in the North. The budget approved by the Minister for these northern studies, based upon the recommendations of the Board, was $920,000.

BEAUFORT REGIONAL ENVIRONMENTAL ASSESSMENT

- The Beaufort Regional Environmental Assessment (BREA) began its second year of implementation. Twenty-two research projects and six working groups are contributing to the goals of filling regional information and data gaps related to offshore oil and gas activities, and of supporting efficient and effective regulatory decisions.

Oil and Gas Resources

One-third of Canada's remaining oil and gas resources are in the North.

According to the National Energy Board, approximately 35% of Canada's remaining marketable resources of natural gas and 37% of remaining recoverable light crude oil is in northern Canada (Canada's Energy Futures, 2011). These percentages reflect conventional oil and gas resources only and are exclusive of unconventional resources.

Regional estimates of Canada's northern discovered resources are listed in Table 1. These are totals for conventional oil and gas resources in discovered fields and do not include estimates of potential in undrilled prospects and basins. Ultimate potential (which includes discovered resources and undiscovered potential) is estimated at about 12 billion barrels of oil recoverable and 150 trillion cubic feet of gas but much uncertainty remains about the resource potential in many of Canada's northern petroleum basins, especially those which have yet to be tested.

Table 1: Oil and Gas Resources

Region	Crude Oil 10^6 m^3	(Million Barrels)	Natural Gas 10^9 m^3	(Trillion cubic feet)
Northwest Territories and Arctic Offshore	187.9	(1182.5)	457.6	(16.2)
Nunavut and Arctic Offshore	51.3	(322.9)	449.7	(16.0)
Arctic Offshore Yukon	62.5	(393.8)	4.5	(0.2)
Total	301.7	(1899.1)	911.8	(32.4)

Resources are 'recoverable': standard recovery factors have been applied: totals have been risked where conceptual (undrilled) plays are included in potential estimates

• Adapted from Table 4 in Drummond, K.J. 2009, Northern Canada Distribution of Ultimate Oil and Gas Resources. Available at http://www.drummondconsulting.com/NCAN09Report.pdf. Compiled and integrated from several published sources which may underestimate or overestimate actual field resources. Volumes and distribution should be regarded as approximate and reflect the opinion of the consultant

• Note that discovered gas volumes do not include estimates for recent discoveries (at Ellice I-48, Olivier H-01, Langley K-30, Langley E-07, Kurk M-15 and Ellice J-27 in the Mackenzie Delta, and Summit Creek B-44, Stewart D-57, Lac Maunoir C-34 and Nogha C-49 in the central Mackenzie Valley)

Recent studies indicate that an upwards revision of estimates of ultimate potential may be warranted. For example, a review of new information by the Geological Survey of Canada suggests that undiscovered resources in the Beaufort Sea – Mackenzie Delta Basin could more than double when extensive deep water potential is included. Unconventional hydrocarbons are attracting oil and gas industry attention in the Mackenzie Valley. These potential resources include shale gas and shale oil in the extensive high quality Devonian Canol Formation, a source rock known to have generated the oil in the major Norman Wells field nearby. The significant increase in exploration activities for shale oil in the area between Norman Wells and Tulita is likely to increase resource estimates in the future, although no unconventional resources have been included in Table 1.

No estimates for unconventional resources in the North have yet been released by either the Geological Survey of Canada or the National Energy Board.

OIL AND GAS MANAGEMENT

Right Issuance

Rights are issued on an open, competitive bidding process.

The Minister of Aboriginal Affairs and Northern Development provides industry with an annual opportunity to obtain exploration rights in the Northwest Territories, Nunavut and the northern offshore. The exploration rights are issued pursuant to the *Canada Petroleum Resources Act*. Current oil and gas disposition maps are available on the Aboriginal Affairs and Northern Development Canada website: http://www.aadnc-aandc.gc.ca/eng/1100100036125

In accordance with the provisions of comprehensive land claim settlement agreements, the views and support of Aboriginal communities and organizations on the terms and conditions of the issuance and related matters are sought prior to rights issuance. Similarly, the Department consults and engages territorial governments and other federal bodies for environmental sensitivity information. After consideration of responses received, the areas opened for exploration may be adjusted from year to year. A Call for Nominations precedes each Call for Bids, allowing industry to specify lands of interest for inclusion in a subsequent Call for Bids process. Calls for Bids are open for the statutory minimum of 120 days, and are published in Part I of the Canada Gazette.

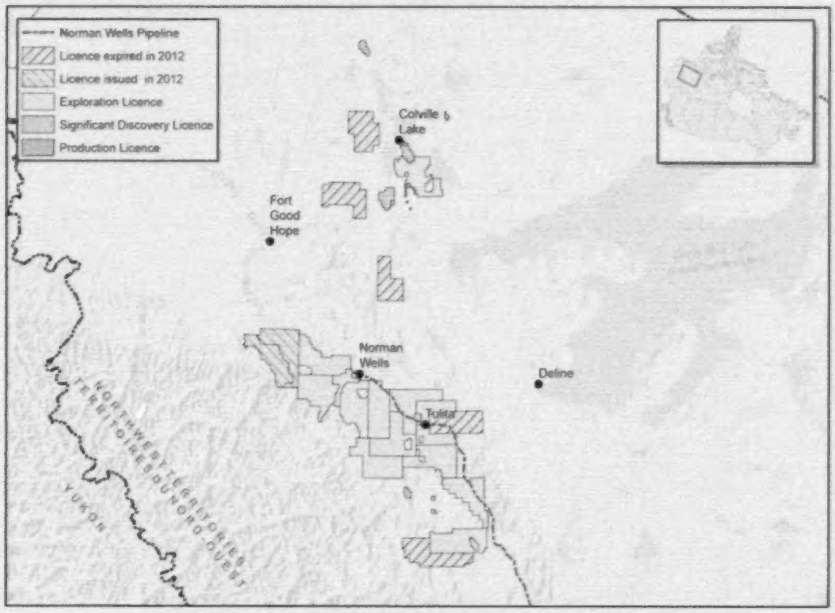
Exploration rights are issued pursuant to an open, competitive bidding process. A single bid evaluation criterion is used - the expenditure planned on exploration of the land block (the "work expenditure bid"). This determines the successful bidder who is issued an exploration licence of up to nine years, comprising two periods.

The successful bidder is expected to spend the dollar value of the proposed work bid during the first period of the licence. During the first period, the successful bidder is required to drill at least one well in order to advance the licence into the second period.

$99.5 million in new work bid commitments.

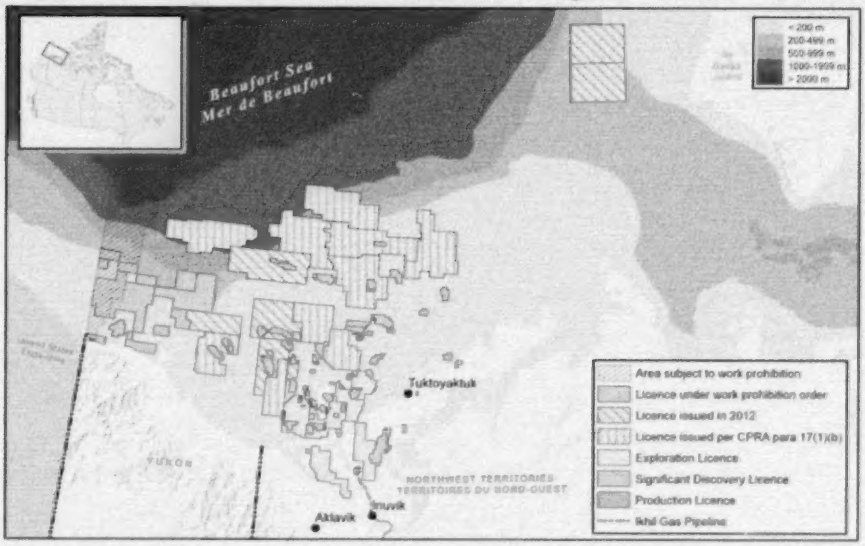
In January and April 2012, two Calls for Nominations closed with two parcels nominated in the Central Mackenzie Valley and six parcels nominated in the Beaufort Sea and Mackenzie Delta. All nominated parcels were included in subsequent Calls for Bids. The central Mackenzie Valley Call for Bids, which closed on June 19, 2012, resulted in the issuance of two exploration licences covering 154,153 hectares for a total work commitment of $92.0 million in work expenditures (See Figure 1).

Figure 1: Central Mackenzie Valley Region



The Beaufort Sea & Mackenzie Delta Call for Bids, which closed on September 6, 2012, resulted in the issuance of six exploration licences covering 905,900 hectares for a total work commitment of $7.5 million in work expenditures (See Figure 2).

Figure 2: Beaufort Sea & Mackenzie Delta Region



At year end, preparations were underway for a Call for Nominations in all of the northern regions: Arctic Islands of Nunavut, central Mackenzie Valley, and Beaufort Sea and Mackenzie Delta.

When exploration results in a petroleum discovery, the legislation provides that application may be made for a declaration of significant discovery. The declaration process, administered by the National Energy Board, confirms a hydrocarbon discovery which satisfies specific technical criteria and describes the extent of discovery. The issuance of a significant discovery licence for lands covering the extent of the discovery is possible either:

a) upon application of the interest owner of an exploration licence subject to all or a portion of the significant discovery area, or
b) by award to the successful bidder following a call for bids in relation to all or a portion of the significant discovery area.

The significant discovery licence is a unique feature of the regime under the *Canada Petroleum Resources Act*. It rewards successful exploration by allowing for indefinite tenure to the petroleum discovery, recognizing that some discoveries may not be immediately economic to produce. The rights conferred by the significant discovery licence are identical to those provided under an exploration licence.

Once a developer has determined that a discovery is commercial and wishes to commence oil or gas production, legislation allows for application to the National Energy Board for a declaration of commercial discovery. Similar to the provisions for issuance of a significant discovery licence, issuance of a production licence is possible either:

a) upon application of the interest owner of an exploration licence or significant discovery licence subject to all or a portion of the commercial discovery area; or,
b) by award to the successful bidder following a call for bids in relation to all or a portion of the commercial discovery area.

A production licence has a term of 25 years which is renewable so long as commercial production continues. Additional rights conferred under a production licence include: the exclusive right to produce petroleum from those frontier lands, and title to the petroleum so produced.

Table 2 outlines land dispositions by region and by interest.

Table 2: Land Disposition as of December 31, 2012

Region	Exploration Licence	Significant Discovery Licence	Production Licence	Former Rights[1]	Total
In hectares					
Arctic Islands	0	332,882	0	0	**332,882**
Eastern Arctic Offshore	0	11,184	0	862,500	**873,684**
Hudson Bay[2]	0	0	0	126,376	**126,376**
Beaufort Sea	3,073,920	205,636	0	0	**3,279,556**
Mackenzie Delta	382,412	134,109	3,423	0	**519,944**
Central Mackenzie Valley	1,214,381	52,725	0	654	**1,267,760**
Southern Northwest Territories	0	62,870	32,842	21,107	**116,819**
Total	**4,670,713**	**799,406**	**36,265**	**1,010,637**	**6,517,021**

Region	Exploration Licence	Significant Discovery Licence	Production Licence	Former Rights[1]	Total
By Interest Type (number of licences)					
Arctic Islands	0	20	0	0	**20**
Eastern Arctic Offshore	0	1	0	30	**31**
Hudson Bay[2]	0	0	0	8	**8**
Beaufort Sea	18	38	0	0	**56**
Mackenzie Delta	5	38	2	0	**45**
Central Mackenzie Valley	15	11	0	6	**32**
Southern Northwest Territories	0	31	21	8	**60**
Total	**38**	**139**	**23**	**52**	**252**

[1] Permits and/or Leases issued under former legislative regimes pursuant to ss. 112(2) of the *Canada Petroleum Resources Act*
[2] Permits onshore islands in northern Hudson Bay are under the jurisdiction of Aboriginal Affairs and Northern Development Canada. Offshore permits in Hudson Bay (not included in this table) are under the jurisdiction of Natural Resources Canada

Aboriginal Affairs and Northern Development Canada
Affaires autochtones et Développement du Nord Canada

Oil & Gas Dispositions as of December 31, 2012

Dispositions des droits pétroliers et gaziers en date de le 31 décembre 2012

- Exploration Licence / Permis de prospection
- Significant Discovery Licence / Attestation de découverte importante
- Production Licence / Licence de production
- Licence issued in 2012 / Permis octroyé en 2012
- Licence issued per CPRA para 17(1)(b) / Permis octroyé conf. à la LFH para. 17(1)(b)
- Licence expired in 2012 / Cessation de permis en 2012
- Call Region / Région d'appel
- Gas pipeline/gazoduc
- Oil pipeline/oléduc
- Area subject to work prohibition / Région sujette à décrets d'interaction
- Licence under work prohibition order / Permis sous décret d'interdiction

< 200 m; 200-499 m; 500-999 m; 1000-1999 m; 2000-2999 m; > 3000 m

Greenland

Arctic Islands of Nunavut / Archipel arctique du Nunavut

Beaufort Sea / Mer de Beaufort

Beaufort Sea & Mackenzie Delta / Mer de Beaufort & Delta du Mackenzie

Baffin Bay / Baie de Baffin

United States / États-Unis

Île Banks Island

Île Victoria Island

Île Baffin Island

Resolute

Pond Inlet

Clyde River

Qikiqtarjuaq

Pangnirtung

Cambridge Bay

Central Mackenzie Valley / Partie centrale de la vallée du Mackenzie

Fort Good Hope

Colville Lake

Norman Wells

Tulita

Deline

Tuktoyaktuk

Aklavik

Inuvik

Fort McPherson

Tsiigehtchic

YUKON

NORTHWEST TERRITORIES / TERRITOIRES DU NORD-OUEST

Yellowknife

Fort Liard

Cameron Hills

BRITISH COLUMBIA / COLOMBIE-BRITANNIQUE

ALBERTA

NUNAVUT

Rankin Inlet

Iqaluit

QUEBEC

INTERESTS ISSUED AND TERMINATED IN 2012

The Department maintains a public registry of petroleum interests and instruments registered under Part VIII of the *Canada Petroleum Resources Act*. This is the official record of rights holders and any transfer of rights or change of ownership must be registered. Monthly registry activity reports are available online at http://www.aadnc-aandc.gc.ca/eng/1100100036878.

In 2012, eight new exploration licences were awarded as a result in the central Mackenzie Valley and the Beaufort Sea and Mackenzie Delta regions. Two explorations licences were issued for lands in the central Mackenzie Valley: EL486 to Shell Canada Limited, and EL487 to Shell Canada Limited and MGM Energy Corp.

The remaining six exploration licences were issued to Franklin Petroleum Limited for shallow water parcels in the Beaufort Sea: EL488 to EL493.

During this year, pursuant to paragraph 17(1)(b) of the *Canada Petroleum Resources Act*, new exploration licences were issued to replace existing exploration licences in the Beaufort Sea in order to equitably restore the licence term which was adversely affected due to the National Energy Board's Public Review of Arctic Safety and Environmental Offshore Drilling Requirements and the predecessor, Policy Review on Same Season Relief Well Capabilities during which operations were effectively suspended. These hearings were initiated on or about November 1, 2009 and concluded with the National Energy Board's final report Filing Requirements for Offshore Drilling in the Canadian Arctic on December 15, 2011.

The new licences were issued in relation to the same frontier lands and all other terms and conditions of the new licence remain the same as the original licence. See Table 3 for list of new exploration licences issued pursuant to paragraph 17(1) (b) of *Canada Petroleum Resources Act*.

In the central Mackenzie Valley, four Exploration Licences (EL442, EL444, EL445 and EL466 Area A) terminated upon expiry of Period 1 as no well was drilled to retain the licence for Period 2 of the term. Within the same region, one licence terminated by surrender (EL443). Licences which were issued or terminated in 2012 are listed in Table 3 and illustrated in Figures 1 and 2.

In February 2012, Lone Pine Resources Canada Ltd. applied for renewal, pursuant to section 62 of the *Canada Oil and Gas Land Regulations*, of eight oil and gas leases at the Pointed Mountain field in the Northwest Territories. The decision for renewal is pending the decision of the National Energy Board with respect to an application for declaration of commercial discovery, pursuant to subsection 35(1) of *Canada Petroleum Resources Act*.

No significant discovery licences or production licences were issued in 2012.

Table 3: Exploration Licences

Licence	Area (ha)	Representative [1]	Effective Date	Well to be Drilled by [2]	Expiry Date	Work Expenditure Bid (in $) [3]
Beaufort Sea/Mackenzie Delta						
EL317 [4]	175,810	Talisman Energy Inc.	5-Oct-1986	N/A		N/A
EL329 [4]	349,981	BP Canada Energy Resources Company	5-Sep-1987	N/A		N/A
EL456	73,391	MGM Energy Corp.	5-Jan-2011	4-Jan-2016	4-Jan-2020	1,697,000
EL457	67,284	MGM Energy Corp.	5-Jan-2011	4-Jan-2016	4-Jan-2020	1,530,000
EL458	75,244	MGM Energy Corp.	5-Jan-2011	4-Jan-2016	4-Jan-2020	1,299,600
EL459	74,618	MGM Energy Corp.	5-Jan-2011	4-Jan-2016	4-Jan-2020	1,160,000
EL461-A [5]	50,552	MGM Energy Corp.	14-Mar-2011	2-Jun-2013	2-May-2015	41,923,636
EL461-B [5]	41,323				2-Jun-2017	
Licences issued in 2012						
EL476 (formerly EL446) [6]	205,321	Imperial Oil Resources Ventures Limited	1-Sep-2012	31-Jul-2017	31-Jul-2019	585,000,000
EL477 (formerly EL449) [6]	202,380	Imperial Oil Resources Ventures Limited	1-Sep-2012	30-Sep-2018	30-Sep-2020	1,180,100,000
EL478 (formerlyEL451) [6]	205,359	BP Exploration Operating Company Limited	1-Sep-2012	30-Sep-2018	30-Sep-2020	15,100,000
EL479 (formerly EL453) [6]	203,635	BP Exploration Operating Company Limited	1-Sep-2012	30-Sep-2018	30-Sep-2020	1,100,000
EL480 (formerly EL448) [6]	108,185	Chevron Canada Limited	1-Sep-2012	31-Oct-2015	31-Oct-2019	1,010,100
EL481 (formerly EL460) [6]	205,946	Chevron Canada Limited	1-Sep-2012	31-Aug-2019	31-Aug-2021	103,300,000
EL482 (formerly EL447) [6]	103,711	ConocoPhillips Canada Resources Corp.	29-Aug-2012	28-Jun-2015	28-Jun-2019	12,084,131
EL483 (formerly EL452) [6]	196,497	ConocoPhillips Canada Resources Corp.	1-Sep-2012	30-Sep-2018	30-Sep-2020	2,543,896
EL484 (formerly EL464) [6]	90,381	Franklin Petroleum Limited	1-Sep-2012	31-Aug-2017	31-Aug-2021	1,000,000
EL485 (formerly EL465) [6]	120,814	Franklin Petroleum Limited	1-Sep-2012	31-Aug-2019	31-Aug-2021	1,000,000
EL488	134,142	Franklin Petroleum Limited	6-Mar-2013	5-Mar-2020	5-Mar-2022	1,251,088
EL489	93,483	Franklin Petroleum Limited	6-Mar-2013	5-Mar-2018	5-Mar-2022	1,251,088
EL490	99,324	Franklin Petroleum Limited	6-Mar-2013	5-Mar-2018	5-Mar-2022	1,251,088
EL491	201,101	Franklin Petroleum Limited	6-Mar-2013	5-Mar-2020	5-Mar-2022	1,251,088
EL492	187,200	Franklin Petroleum Limited	6-Mar-2013	5-Mar-2020	5-Mar-2022	1,251,088
EL493	190,650	Franklin Petroleum Limited	6-Mar-2013	5-Mar-2020	5-Mar-2022	1,251,088

Table 3: Exploration Licences (continued)

Licence	Area (ha)	Representative [1]	Effective Date	Well to be Drilled by [2]	Well Requirement	Expiry Date	Work Expenditure Bid (in $) [3]
Central Mackenzie Valley - Mainland							
EL455	80,240	MGM Energy Corp.	5-Jan-2011	4-Jan-2016		4-Jan-2020	1,699,990
EL462	87,748	Husky Oil Operations Limited	30-Aug-2011	29-Aug-2016		29-Aug-2020	188,000,000
EL463	87,034	Husky Oil Operations Limited	30-Aug-2011	29-Aug-2016		29-Aug-2020	188,000,000
EL466-B [5]	82,100	MGM Energy Corp.	15-Jan-2011	9-May-2012	✓	09-Jul-2016	5,487,626
EL467	87,948	Shell Canada Limited	20-Dec-2011	19-Dec-2016		19-Dec-2020	18,296,208
EL468	87,117	Shell Canada Limited	20-Dec-2011	19-Dec-2016		19-Dec-2020	18,098,660
EL469	26,533	Shell Canada Limited	20-Dec-2011	19-Dec-2016		19-Dec-2020	7,049,269
EL470	87,495	ConocoPhillips Canada Resources Corp.	20-Dec-2011	19-Dec-2016		19-Dec-2020	66,712,035
EL471	88,848	Imperial Oil Resources Ventures Limited	20-Dec-2011	19-Dec-2016		19-Dec-2020	21,500,003
EL472	90,632	Imperial Oil Resources Ventures Limited	20-Dec-2011	19-Dec-2016		19-Dec-2020	21,500,003
EL473	82,643	MGM Energy Corp.	20-Dec-2011	19-Dec-2016		19-Dec-2020	1,512,122
EL474	86,602	MGM Energy Corp.	20-Dec-2011	19-Dec-2016		19-Dec-2020	1,502,503
EL475	85,288	MGM Energy Corp.	20-Dec-2011	19-Dec-2016		19-Dec-2020	2,021,213
Licences issued in 2012							
EL486	69,649	Shell Canada Limited	18-Dec-2012	17-Dec-2017		17-Dec-2021	76,864,864
EL487	84,504	Shell Canada Limited	18-Dec-2012	17-Dec-2017		17-Dec-2021	15,276,444
Licences terminated, expired or surrendered in 2012							
EL442	63,312	MGM Energy Corp.	10-May-2007	9-May-2012		9-May-2016	8,260,000
EL443	91,116	Husky Oil Operations Limited	10-May-2007	9-May-2012		9-May-2016	4,888,888
EL444	74,604	BG International Limited	10-May-2007	9-May-2012		9-May-2016	1,100,000
EL445	79,240	BG International Limited	10-May-2007	9-May-2012		9-May-2016	1,100,000
EL466-A [5]	87,872	MGM Energy Corp.	15-Jan-2011	9-May-2012		9-Jul-2016	6,300,000

[1] These representatives are current as of December 31, 2012

[2] Per the original licence, Period 1 may be extended using drilling deposits or through amendment to the licence.

[3] Work Bids rounded to the near $

[4] Under Work prohibition orders pursuant to paragraph 12(1) (a) of the *Canada Petroleum Resources Act*

[5] Consolidations as per ss.25 (3) of the *Canada Petroleum Resources Act* (Note that on consolidated licences, one well may not be sufficient to hold all lands in the licences, depending on the terms and conditions

[6] Issuance pursuant to paragraph 17(1) (b) of the *Canada Petroleum Resources Act*

✓Well requirement met as of year end. The drilling of one exploratory or delineation well prior to the end of Period 1 of the term is a condition precedent to obtaining tenure to Period 2.

ADMINISTRATION OF SECURITY DEPOSITS

Following a Call for Bids for exploration licences, successful bidders are required to post 25% of the work expenditure bids as security against for the performance of work (work deposits). During Period 1 of the licence term, the Work Deposit may be refunded as the interest holder undertakes work on the licence and allowable expenditures are incurred. Should expenditures during Period 1 fail to reach the original bid amount, the difference between the remaining deposit and 25% of the original work expenditure bid is forfeited. Failure to drill a well on the lands by the end of Period 1 will result in the termination of the exploration licence, and lands revert to the Crown.

During Period 2, exploration licence terms require that rentals are paid annually and may be refunded upon application of approved allowable expenditures incurred during Period 2. Failure to pay rentals will result in termination of the licence. Should expenditures in Period 2 fail to meet the cumulative amount of the annual rentals, the difference is forfeited to the Crown.

Security deposits held for all Work Deposits and rentals as of December 31, 2012 totaled $633,757,367. Table 4 outlines revenues from administration of interests in 2012. Non-refundable rentals are revenues collected from oil and gas leases issued under former legislation (*Canada Oil and Gas Land Regulations*). These are payable annually, in advance of the anniversary date of the leases. Pursuant to section 15 of *Frontier Lands Registration Regulations*, various fees are payable, such as for issuance of new exploration licences, registration of instruments or provision of copies of abstracts.

Table 4: Revenues from Administration of Interests ($) 2008-2012

	2008*	2009*	2010	2011	2012
Non refundable rentals (Former Leases)[1]	62,749	62,749	61,127	53,195	53,195
Fees[2]	30,762	5,467	16,872	35,487	43,497
Forfeitures[3]	22,174,929	2,054,238	770,372	25,784,658	1,631,597
Total	**22,268,440**	**2,122,454**	**848,371**	**25,873,340**	**1,728,289**

[1] Former Leases were issued under the *Canada Oil and Gas Land Regulations* and continue in force pursuant to s. 114 of the *Canada Petroleum Resources Act*.

[2] Issuance fees and fees for service (s.15 of the *Frontier Lands Registration Regulations*)

[3] Work deposits & rentals which were not offset by work expenditures in either Period 1 or 2 of Exploration Licence

* Revenue adjustments due to correction to financial coding

Benefits

Northerners and other Canadians benefit from oil and gas activities in the North.

Subsection 5.2 of the *Canada Oil and Gas Operations Act* and section 21 of the *Canada Petroleum Resources Act* require that a Benefits Plan be approved by the Minister of Aboriginal Affairs and Northern Development Canada before authorization of any oil and gas work or activity or approval of a development plan relating to a pool or field in the Northwest Territories, Nunavut and Arctic offshore within the area of the Minister's administrative responsibility.

In a Benefits Plan, a company proposing an oil and gas work or activity is required to describe the principles, strategies and procedures that ensure Canadians and Canadian businesses are provided full and fair opportunity to participate in the project. The Department also requires that a company monitor and report on the implementation of the commitments made in a Benefits Plan. A company is encouraged to give first consideration to local northern Aboriginal and other northern residents and businesses.

Environmental Studies Research Funds

The Environmental Studies Research Fund (ESRF) is a research program that finances environmental and social studies related to the exploration, development and production of oil and gas resources on frontier lands. The program is funded through levies on frontier lands paid by oil and gas interests. The ESRF is established under Part VII of the *Canada Petroleum Resources Act*.

Aboriginal Affairs and Northern Development Canada officials participate in the development of research priorities and projects funded through ESRF, with views informed by advice from the ESRF Northern Advisory Committee.

In 2012, the ESRF Management Board approved funding for two new studies in the North. The budget approved by the Minister for these northern studies, based upon the recommendations of the Board, was $920,000.

Three studies funded under the ESRF were completed in 2012: *Seabed Stability Conditions in the Shelf/Slope Transition Zone, Canadian Beaufort Sea* (wrap-up and reporting phase); *Detection of Oil under Ice with Helicopter-Borne Ground Penetrating Radar* (published as ESRF Related Studies report); *Tracking Oil Spills/Ice Hazards with Ice-Ocean Forecast Model* (published as ESRF Related Studies report).

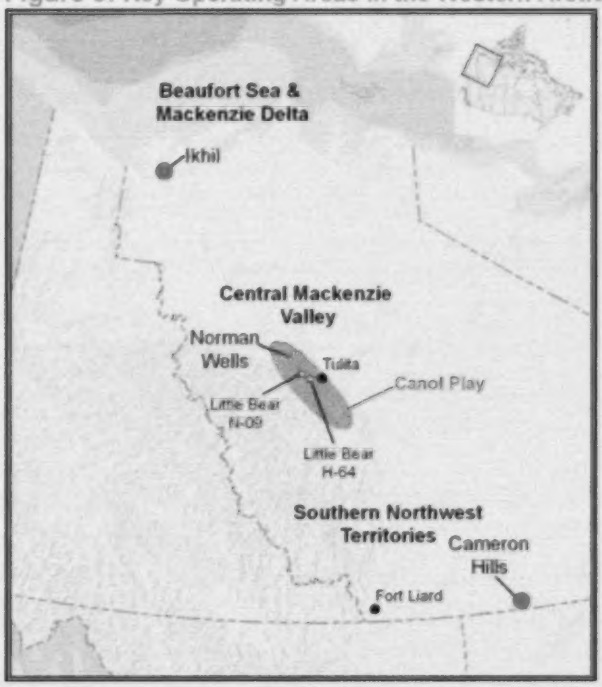
The following research projects were initiated in 2012: *Improving the Accuracy of the Short-Term Ice and Ocean Forecasts in the Beaufort Sea* (second year of a two-year study); *eSPACE: Emergency Spatial Pre-SCAT for Arctic Coastal Ecosystems – Beaufort Sea/Mackenzie Delta* (second year of a two-year study); *Upstream Oil and Gas Waste Stream Study, Northwest Territories* (first year of a three-year study); *Uniqueness of Fishes and Habitat Utilization in Oil and Gas Lease Blocks Relative to Non-Lease Areas in the Canadian Beaufort Sea* (first year of a two-year study); *Oil Spill Countermeasures Field Trials in Arctic Marine Waters*. More details on ESRF and its publication can be found at: www.esrfunds.org

EXPLORATION ACTIVITIES IN THE NORTH

In 2012, two new exploration wells were drilled in the central Mackenzie Valley to a total drill depth of 3199 m. In addition, nine wells previously drilled were re-entered for work-over, re-completion or abandonment. There was no development drilling in 2012.

There were four geophysical field operations in 2012; two in the central Mackenzie Valley and two in the Beaufort Sea. Figure 3 outlines the key operating areas in the North in 2012.

Figure 3: Key Operating Areas in the Western Arctic



Total exploration expenditures in 2012 are provisionally estimated at $111 million out of a total expenditure of $113 million for exploration, field development and other well operations. Tables 5 and 6 and Figure 4 outline drilling and seismic data in the North in 2012.

SOUTHERN NORTHWEST TERRITORIES

In 2012, there were no new exploration or development wells drilled or seismic acquired in Southern Northwest Territories. In the producing Cameron Hills field, nine wells were re-entered for well work by Paramount Resources Ltd.

CENTRAL MACKENZIE VALLEY

In 2012, Husky Oil Operations Ltd. drilled two wells in the Tulita District, Little Bear H-64 and Little Bear N-09. There were no new development wells drilled in the Normans Wells Field.

Husky exploration activity in the region also included a 3-D seismic program with acquisition of 216 km². Operations started in January and ended in April.

Explor Geophysical Ltd continued a 2-D seismic program in the Tulita District that had begun near the end of 2011. This non-exclusive program was suspended in April 2012 and collected 480.1 km of seismic.

MACKENZIE DELTA

In 2012, there was no industry exploration or development activity in the Mackenzie Delta.

BEAUFORT SEA

In 2012, two seismic surveys were undertaken in the Beaufort Sea. Chevron Canada Limited completed a 3580 km² 3-D program covering EL481. GX Technology carried out a non-exclusive 2-D seismic survey in the western Canadian Beaufort Sea comprising 224.1 km of seismic. This program connects to a complementary seismic program in U.S. waters offshore Alaska.

ARCTIC ISLANDS OF NUNAVUT

In 2012, there was no industry exploration or development activity in the Arctic Islands in 2012.

EASTERN ARCTIC OFFSHORE

In 2012, there was no industry exploration or development activity in the offshore in 2012. However, two seismic surveys were conducted, as well as some shallow coring and seafloor sampling, in the Greenlandic waters of Baffin Bay. No additional exploratory wells were drilled offshore Greenland in 2012.

Table 5: Drilling Statistics 2012

Well name	Lat (NAD 27)	Long (NAD 27)	Class[1]	Total Depth (m)	Metres Drilled 2012	Begun	Rig Released	Well Status[2]	Licence[3]
Re-Entries of previously drilled wells									
Paramount et al CAMERON A-73	60° 12' 9.5"	117° 43' 27.1"	EX	1581.0		12-Feb-12	4-Mar-12	S	PL16
Paramount et al CAMERON I-73	60° 2' 44.6"	117° 28' 24.5"	DEV	1633.5		12-Mar-12	18-Mar-12	P	PL4
Paramount et al CAMERON K-74	60° 3' 40.7"	117° 29' 27.3"	DEV	1460.5		16-Feb-12	21-Feb-12	P	PL13
Paramount et al CAMERON F-19	60° 8' 18.4"	117° 33' 15.5"	DEL	1476.4		4-Mar-12	6-Mar-12	S	PL5
Paramount et al CAMERON K-19	60° 8' 38.1"	117° 33' 7.0"	DEL	1479.3		9-Mar-12	11-Mar-12	S	PL5
Paramount et al CAMERON O-19	60° 8' 46.9"	117° 32' 40.3"	DEL	1654.5		7-Mar-12	9-Mar-12	S	PL5
Paramount et al CAMERON 2M-73	60° 2' 52.3"	117° 29' 31.9"	DEL	1581.6		13-Jan-12	16-Feb-12	P	PL4
Paramount et al CAMERON 2H-03	60° 2' 20.4"	117° 30' 6.3"	DEV	2529.2		24-Jan-12	9-Feb-12	S	PL17
Paramount et al CAMERON E-52	60° 1' 26.0"	117° 25' 53.3"	DEV	1412.9		19-Mar-12	21-Mar-12	S	
Central Mackenzie Valley									
New Wells									
Little Bear N-09	64° 58' 55.2"	126° 31' 20.2"	EX	1863	1863	27-Jan-12	16-Feb-12	S	EL463
Little Bear H-64	64° 53' 28.5"	126° 11' 20.3"	EX	1336	1336	19-Feb-12	10-Mar-12	S	EL462

[1] Class EX=exploratory, DEL=delineation, DEV=development, TEST=Test Hole

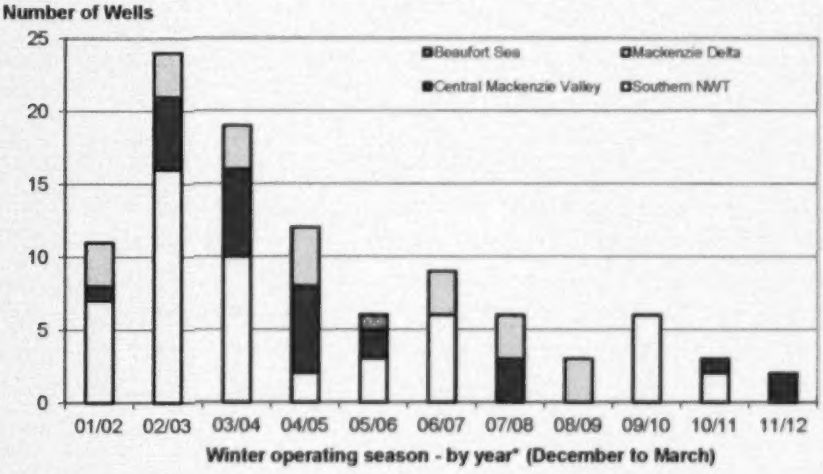
[2] Status S=suspended, A=abandoned, PR=production, Re-A=Re-Abandoned

[3] Licence EL=Exploration Licence, SDL=Significant Discovery Licence, PL=Production Licence

Table 6: Seismic Acquisition 2003-2012

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2D Seismic (in Km)	586	189	564	3,917	6,028	12,684	1,488	6,165	59.5	837
3D Seismic (in. Km^2)	194	804	635	1,100	0	1,638	1,577	0	0	3,796

Figure 4: Wells Drilled 2002-2003 to 2011-2012



*Excludes Norman Wells development drilling.
*Includes Cameron Hills development drilling.

PRODUCTION

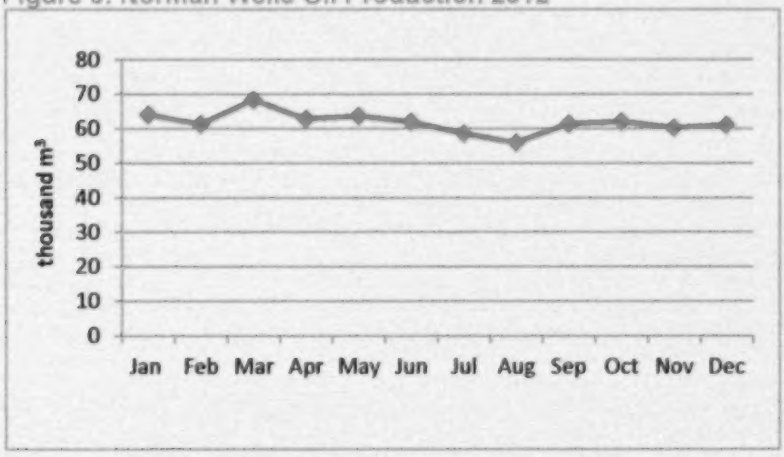
Three fields produced oil and/or gas in the Northwest Territories in 2012: the Norman Wells field in the central Mackenzie Valley, the Ikhil gas field on the Mackenzie Delta, and the Cameron Hills field southwest of Hay River in the southern Northwest Territories.

NORMAN WELLS

Imperial Oil's Norman Wells field in the central Mackenzie Valley is the northern anchor for the Enbridge Norman Wells oil pipeline which terminates in Zama, Alberta. This major oil field was discovered in 1920 and continues to produce oil. The field was fully developed in the early 1980s and has produced continuously since 1985, although there were earlier periods of limited production. As of December 31, 2012, the field had produced a cumulative total of 42.9 x 10^6 m^3 (269.8 million barrels) over 22 years of production. See Figure 5.

The Norman Wells field saw a 26% increase in oil production in 2012, compared to the 2011 level. This increase was mainly due to field production returning to normal operations after the four month shut down of the Rainbow pipeline and the Enbridge pipeline operating at reduced capacity in 2011.

Figure 5: Norman Wells Oil Production 2012



IKHIL

Gas from the Ikhil field on the Mackenzie Delta is produced from two wells and delivered through a 50 km pipeline to Inuvik, where it is used for power generation and heating. The field is operated by AltaGas Ltd. As of December 2012, the field had produced a cumulative total of 205.4 x 10^6 m^3 (7.3 billion cubic feet) of natural gas over 14 years of production.

Production at the Ikhil field declined this year due mainly to conserving remaining reserves and utilizing Ikhil as a back-up rather than primary energy source.

CAMERON HILLS

In 2012, the only field producing from the southern Northwest Territories was the Cameron Hills field, operated by Paramount Resources Ltd. Production from the field in the Fort Liard area continues to be suspended. The Cameron Hills field produces both oil and gas, which are delivered by pipeline south to the Bistcho area of northern Alberta.

Production at the Cameron Hills field continues to decline due mainly to wells that have been shut in and the natural decline in production volumes. Unsuccessful developmental drilling in the areas was also a contributing factor. As of December 31, 2012, the field had produced cumulative totals of 925 x 10^6 m^3 (32.7 billion cubic feet) of natural gas and 396 x 10^3 m^3 (2.5 million barrels) of oil over 11 years of production.

4.8 million barrels of oil and 5.7 billion cubic feet of gas were produced in the North.

NUNAVUT AND ARCTIC OFFSHORE

There are no producing fields in Nunavut or in offshore Arctic waters.

SUMMARY

The total aggregate oil production in 2012 was 756.4 x 10^3 m^3 (4.8 million barrels), a 24% increase from 2011 (See Figure 6). Total aggregate natural gas production in the Northwest Territories in 2012 was 162.8 x 10^6 m^3 (5.7 billion cubic feet), less than a 1% decrease from the previous year (See Figure 7). Sixty-two percent of the gas produced was associated with oil production at the Norman Wells field and was used for field operations. Table 7 outlines oil and gas production data in the Northwest Territories.

Table 7: Oil and Gas Production 2008-2012

	2008	2009	2010	2011	2012	2011-2012 % Change
Oil Production (thousand m^3)						
Norman Wells (Imperial Oil)	893.6	869.0	840.7	588.2	740.9	25.96%
Cameron Hills ((Paramount)	47.8	32.2	31.4	20.4	15.5	-24.02%
Total Oil Production	**941.4**	**901.2**	**872.1**	**608.6**	**756.4**	**24.29%**
Gas Production (million m^3)						
Norman Wells (Imperial Oil)	103.8	107.5	101.4	86.4	100.1	15.86%
Ikhil (AltaGas)	18.9	18.0	17.7	17.0	10.3	-39.41%
Cameron Hills (Paramount)	80.3	66.9	59.4	60.9	52.7	-13.46%
Total Natural Gas Production	**203.0**	**192.4**	**178.5**	**164.3**	**163.1**	-0.74%

Figure 6: Oil Production 2003-2012

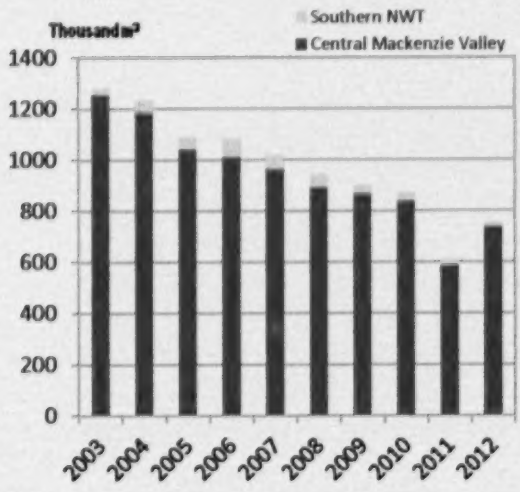
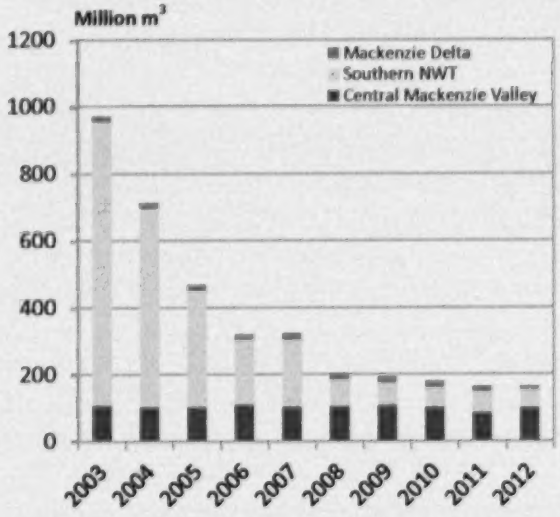


Figure 7: Natural Gas Production 2003-2012



ROYALTIES

Royalties received in the 2012 calendar year from oil and gas production on northern frontier lands amounted to $9,992,786. This represents a 14% decrease from 2011, due to a decline in oil prices in 2012 (See Table 8).

Table 8: Royalties ($) Received 2008-2012

	2008	2009 [1]	2010	2011	2012
Royalty [2]	30,381,061	18,876,656	15,762,287	11,652,548	$9,992,786

[1] Note: Royalty from the Ikhil field is not included. Ikhil lies on Inuvialuit Lands and is administered on behalf of the Inuvialuit pursuant to s. 7 (94) of the Inuvialuit Final Agreement.
[2]2009 revenue includes a deposit of $4 million from an interest holder against an estimated royalty assessment resulting from an audit. This audit was completed in December 2010 and an assessment was issued in March 2011. The final amount owed to the Crown was received in 2011.

Audits and Assessments

The Northern Petroleum and Mineral Resources Branch manages a risk-based audit and royalty assessment program, where royalty submissions are regularly monitored, periodically reviewed and selected for audits. The audit objective is to obtain reasonable audit assurance that the sales revenues and expenses claimed on the monthly oil and gas production were reported accurately in the computation of royalties paid to the Crown.

In 2012, one new audit was undertaken and two audits carried over from 2011 were completed during the year.

FURTHER INFORMATION

NORTHERN PETROLEUM AND MINERAL RESOURCES BRANCH

Please visit our website at www.aadnc-aandc.gc.ca/nth/og/index-eng.asp.

To obtain further information, please contact appropriate individuals below by phone or in writing.

Mailing address:
Northern Petroleum and Mineral
Resources Branch
Aboriginal Affairs and
Northern Development Canada
OTTAWA ON K1A 0H4

Courier only:
Northern Petroleum and Mineral
Resources Branch
Aboriginal Affairs and
Northern Development Canada
10 Wellington Street
GATINEAU QC K1A 0H4
Telephone: 819-953-2087
Fax: 819-953-5828

Information on the resource management regime, Calls for Nominations and Bids, and other related information: Manager, Land Tenure – Telephone: 819-934-9392

Information on registration procedures and regulations, exploration, significant discovery and production licences, transfers, and notices: Registrar – Telephone: 819-997-0048

Information on Northern Petroleum Resources Directorate Maps, and Geographic Information System (GIS) Data:

Geomatics Officer – Telephone: 819-934-9394

Information on northern exploration history and geological / geophysical activities:

Senior Petroleum Geologist – Telephone: 819-953-8722

Information on royalty policy and royalty submissions:

Manager, Fiscal Policy and Royalty Administration – Telephone: 819-953-3267

Information on Benefits Plan requirements for Nunavut and northern offshore is available from the Northern Petroleum Resources Directorate – Telephone 819-953-2087

Information on Benefits Plan requirements associated with new exploration programs on land in the Northwest Territories is available from the department's Northwest Territories Regional Office at:

Petroleum Development Division
Northwest Territories Regional Office
Aboriginal Affairs and Northern Development Canada
4914-50th Street, PO Box 1500
YELLOWKNIFE NT X1A 2R3
Telephone: 867-669-2469 / Fax: 867-669-2705

OTHER SOURCES OF INFORMATION

National Energy Board

•The Operations Business Unit regulates the exploration, development and production of hydrocarbon resources in non Accord frontier lands under the *Canada Petroleum Resources Act*, the *Canada Oil and Gas Operations Act*, , and the *National Energy Board Act*.

•The Frontier Information Office provides access to maps, technical information, geological and geophysical reports, well history reports and records.

National Energy Board (NEB)
444 Seventh Avenue SW
CALGARY AB T2P 0X8
Telephone: 403-292-4800

Website: http://www.neb.gc.ca/

Northwest Territories Geosciences Office

Undertakes research to assess hydrocarbon potential of sedimentary basins in the Northwest Territories and provides data, general information and advice on petroleum geosciences.

Website: http://www.nwtgeoscience.ca

Geological Survey of Canada

The Geological Survey of Canada Calgary provides public viewing and sampling facilities for cores and samples, and information on wells drilled north of 60 at its offices at:

Geological Survey of Canada Calgary
3303-33rd Street NW
CALGARY AB T2L 2A7
Telephone: 403-292-7000

Website: http://gsc.nrcan.gc.ca/org/calgary/index_e.php

Information on geosciences in the Baffin Bay – Davis Strait region is available from:
Geological Survey of Canada Atlantic
Bedford Institute of Oceanography
PO Box 1006
DARTMOUTH NS B2Y 4A2

Website: http://gsc.nrcan.gc.ca/org/atlantic/index_e.php